

Docket No.  
405507/0030

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: **Yuichi Nishihara**

Group Art Unit: **2861**

Application No.: **10/517,555**

Examiner: **Jannelle M. Lebrón**

Filed: **December 8, 2004**

Confirmation No.: **3859**

For: **EXPENDABLE CONTAINER WITH FUNCTION OF MEASURING  
RESIDUAL QUANTITY OF EXPENDABLE**

Date: **April 24, 2007**

**RESPONSE TO RESTRICTION REQUIREMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In reply to the Office Action of the United States Patent and Trademark Office dated April 5, 2007, the time for response to which extending for thirty-one days to and including May 7, 2007 (this being the first business day after May 6, a Sunday), Applicant elects the invention defined by the Office Action as Group I. The Office Action stated Group I included claims 1-4.

This election is made with traverse, for the reasons set forth below. Also, this election should not be construed as an admission that the Groups have been properly defined.

The subject application is a national stage application filed in accordance with 35 U.S.C. § 371. As such, restriction practice is governed by 37 C.F.R. § 1.499 and M.P.E.P. § 1893.03(d), entitled "Unity of Invention".

More specifically, the restriction requirement is respectfully traversed on ground the restriction requirement does not comply with M.P.E.P. § 1893.03(d). M.P.E.P. § 1893.03(d) provides in pertinent part:

When making a lack of unity of invention requirement, the examiner must (1) list the different groups of claims and (2) explain why each group lacks unity with each other group (i.e., why there is no single general inventive concept) **specifically describing the unique special technical feature in each group.**

\* \* \* \*

**A group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature. The expression special technical features is defined as meaning those technical features that define the contribution which each claimed invention, considered as a whole, makes over the prior art. For example, a corresponding technical feature is exemplified by a key defined by certain claimed structural characteristics which correspond to the claimed features of a lock to be used with the claimed key. Note also the examples contained in Chapter 10 of the International Search and Preliminary Examination Guidelines which can be obtained from WIPO's web site ([www.wipo.int/pct/en/texts/gdlines.htm](http://www.wipo.int/pct/en/texts/gdlines.htm)).**

(emphasis added).

The Office Action justifies the restriction requirement with overbroad reasoning, stating "[t]he groups listed above are not within the permitted combination of different categories of invention. **There are two apparatuses, two processes and one product**" (Office Action, p. 2, § 2) (emphasis in original). This, however, is not relevant to the inquiry specified by M.P.E.P. § 1893.03(d).

The Office Action defines the common technical feature in all groups as "an expendable container capable of measuring a residual quantity of ink kept in the ink cartridge utilizes a piezoelectric element". The Office Action then contends that this cannot be a special technical feature because it is taught in the art. However, the Office Action's reasoning is flawed

because the Office Action improperly defines the common technical feature too broadly, thereby enabling the Office Action to identify a prior art reference that allegedly teaches this feature.

Applicant respectfully submits that, as shown below in the extracted language from all of the independent claims, the special technical feature is the changeability of a discharge characteristic of the piezoelectric element attached to an expendable tank.

**Claim 1**

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto

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the control module is capable of vary a discharge characteristic of the piezoelectric element.

**Claim 5**

(a) providing an expendable tank configured to store the expendable and has a piezoelectric element attached thereto, and a circuit configured to charge and discharge the piezoelectric element;

(b) setting a discharge characteristic of the piezoelectric element in a variable manner; and

**Claim 8**

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto

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(f) setting a different value from a current setting of the discharge characteristic on which the measurement is impossible to the discharge characteristic, and returning a process to the step (d) in the case of determination of immeasurable, in response to the determination of measurability; and

**Claim 9**

(c) attaching the piezoelectric element, a non-volatile memory, and a detection signal generation circuit to the expendable tank, the detection signal generation

circuit being configured to charge and discharge the piezoelectric element, and generates a detection signal including information representing a cycle of remaining vibration of the piezoelectric element after the discharge;

(c) setting discharge characteristic of the piezoelectric element according to the piezoelectric element characteristic information; and

#### **Claim 11**

(b) attaching a piezoelectric element, a non-volatile memory, and a circuit configured to charge and discharge the piezoelectric element, to the expendable tank;

(c) setting a discharge characteristic of the piezoelectric element in a variable manner;

#### **Claim 12**

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto;

the control module is capable of setting the discharge characteristic of the piezoelectric element according to the piezoelectric element characteristic information and the discharge characteristic setting information.

All of the independent claims provide for the special technical feature, and all the dependent claims incorporate by reference that special technical feature. M.P.E.P. § 1893.03(d) therefore teaches that in such a situation, when plural inventions are linked to form a single general inventive concept because of the technical relationship among the inventions due to the presence of the common special technical feature, there is unity of invention and so restriction would not be proper.

Accordingly, favorable reconsideration, withdrawal of the restriction requirement, and examination of claims 1-13 are respectfully requested.

#### **CONCLUSION**

Applicant respectfully submits that all the pending claims application are patentable over the prior art. Favorable consideration and prompt allowance are respectfully requested.

No fees are believed to be due in connection with the filing of this paper.

Nevertheless, the Commissioner is authorized to charge any fees which may now or hereafter be due in this application to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicant's attorney at the number listed below.

Respectfully submitted,

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